

## CLAIMS

What is claimed is:

1        1.        A communications network comprising:

2                a base transceiver station (BTS) in each cell of a plurality of wireless cells,  
3        wireless communications devices in said each cell wirelessly communicating with a  
4        corresponding said BTS;

5                a plurality of base station controllers in communication with one another and  
6        managing spanning calls, said each BTS being connected to one base station  
7        controller (BSC), each said BTS connected to said one BSC being a local BTS in a  
8        local cell and each said BTS connected to another said one BSC being a remote BTS  
9        in a remote cell, said spanning calls being between said wireless communications  
10       devices in one said local cell and one said remote cell; and

11               a gateway server in each of at least two BSCs, each said gateway server  
12       providing call linkage for managed said spanning calls in call context objects separate  
13       from said managed spanning calls.

1        2.        A communications network as in claim 1, each of said wireless

2        communications devices being a mobile station (MS), said gateway server further  
3        comprising:

4                an application service interface creating said call context objects and  
5        forwarding created said call context objects to a remote said gateway server, said  
6        remote gateway server being in a remote cell.

1        3.        A communications network as in claim 2, wherein said application service  
2        interface includes computer supported telecommunications applications (CSTA), said  
3        CSTA monitoring said BSC for spanning calls, creating said call context objects for  
4        identified incoming said spanning calls and forwarding said created call context  
5        objects to said remote gateway server.

1        4.        A communications network as in claim 3, wherein said CSTA further receives  
2        forwarded said created call context objects, creates said call context objects for

3 received said spanning calls and returns said created call context objects for said  
4 received spanning calls, said call linkage being established for said spanning call.

1 5. A communications network as in claim 1, wherein said gateway server routes  
2 spanning calls originating in said local cell to one of a number of dedicated lines.

1 6. A communications network as in claim 5, wherein said gateway server routes  
2 spanning calls from said dedicated lines to a called one of said wireless  
3 communications devices.

1 7. A communications network as in claim 6, wherein said dedicated lines are dial  
2 in direct (DID) numbers on a private branch exchange (PBX).

1 8. A method of managing calls between endpoints in a communications network,  
2 said method comprising the steps of:  
3 a) identifying spanning calls from incoming calls, a spanning call being a  
4 call to a remote mobile station (MS) at another endpoint;  
5 b) diverting said spanning calls to a dedicated line and forwarding call  
6 context objects to a receiving endpoint, said call context objects providing call lineage  
7 for corresponding said spanning calls;  
8 c) matching said call context objects with said corresponding spanning  
9 calls on said dedicated line at said receiving endpoint; and  
10 d) deflecting matched said spanning calls to called said mobile stations.

1 9. A method as in claim 8, wherein the step (a) of identifying spanning calls  
2 comprises:  
3 a1) creating a call context object with a globally unique call linkage value  
4 for incoming calls from local mobile stations; and  
5 a2) identifying any incoming calls directed to a MS at said other endpoint,  
6 said MS being a remote MS.

1        10.     A method as in claim 9, wherein the step (a2) comprises identifying that said  
2        remote endpoint is in a different computer supported telecommunications applications  
3        (CSTA) sub-domain than said incoming calls.

1        11.     A method as in claim 8, wherein said dedicated line is one of a plurality of  
2        pooled dedicated lines.

1        12.     A method as in claim 11, wherein said plurality of dedicated lines is a pool of  
2        dial in direct (DID) lines in a private branch exchange (PBX).

1        13.     A method as in claim 12, wherein said pool of DID lines is a circular pool.

1        14.     A method as in claim 11, wherein forwarded said call context objects include a  
2        pool number identifying each corresponding spanning call with one of said pooled  
3        dedicated lines.

1        15.     A method as in claim 11, wherein spanning calls are matched in the matching  
2        step (c) at said receiving endpoint by a corresponding one of said pooled dedicated  
3        lines.

1        16.     A method as in claim 11, wherein said forwarded call context objects further  
2        include a called MS designation.

1        17.     A method as in claim 8, before the step (d) of deflecting spanning calls further  
2        comprising:

3            d1)     creating another call context object indicating a receiving end  
4        identification; and

5            d2)     retuning said other call context object to an originating endpoint.

1        18.     A method as in claim 17, wherein the returned said other call context object  
2        includes a new call identification (ID) and said method further comprises:

3            e)     reporting call events with said new call ID.

1        19.     A computer-readable medium having stored thereon a plurality of instructions  
2        for managing calls between endpoints in a communications network, the plurality of  
3        instructions including instructions which, when executed by a processor in said  
4        endpoint, cause the processor to:

5            a)     identify spanning calls from incoming calls, a spanning call being a  
6        call to a remote mobile station (MS) at another endpoint;

7            b)     divert said spanning calls to a dedicated line and forwarding call  
8        context objects to a receiving endpoint, said call context objects providing call lineage  
9        for corresponding said spanning calls;

10          c)     match forwarded said call context objects with said corresponding  
11        spanning calls on said dedicated line; and

12          d)     deflect matched said spanning calls to called said mobile stations.

1        20.     A computer readable medium as in claim 19 before the instruction step (a) of  
2        identifying spanning calls, causing the processor to:

3            a1)     create a call context object with a globally unique call linkage value for  
4        incoming calls from local mobile stations;

5            a2)     identify any incoming calls directed to a MS at said other endpoint,  
6        said MS being a remote MS.

1        21.     A computer readable medium as in claim 20, wherein said remote endpoint is  
2        in a different computer supported telecommunications applications (CSTA) sub-  
3        domain than said incoming calls.

1        22.     A computer readable medium as in claim 19, wherein, the plurality of  
2        instructions include instructions which cause the processor to set aside a pool of  
3        dedicated lines and said dedicated line is one of said pooled dedicated lines.

1        23.     A computer readable medium as in claim 22, wherein said pool of dedicated  
2        lines is a pool of dial in direct (DID) lines in a private branch exchange (PBX).

1        24.     A computer readable medium as in claim 23, wherein said pool of DID lines is  
2        a circular pool.

1 25. A computer readable medium as in claim 22, wherein forwarded said call  
2 context objects include a pool number identifying each corresponding spanning call  
3 with one of said pooled dedicated lines.

1 26. A computer readable medium as in claim 22, wherein spanning calls are  
2 matched in the matching step (c) by corresponding an incoming one of said pooled  
3 dedicated lines with a forwarded call context object value.

1 27. A computer readable medium as in claim 22, wherein said forwarded call  
2 context objects further include a called MS designation.

1 28. A computer readable medium as in claim 19, before the step (d) of deflecting  
2 spanning calls further comprising:

3 d1) creating a receiving end call context object indicating a receiving end  
4 identification; and

5 d2) retuning said receiving end call context object to an originating  
6 endpoint.

1 29. A computer readable medium as in claim 28, wherein the returned said  
2 receiving end call context object includes a new call identification (ID) and call  
3 events are reported with said new call ID.

1 30. A computer readable medium as in claim 19, wherein the plurality of  
2 instructions are computer supported telecommunications applications (CSTA)  
3 middleware in a software development kit (SDK).

1 31. A computer program product for managing calls between endpoints in a  
2 communications network, said computer program product comprising a computer  
3 usable medium having computer readable program code thereon, said computer  
4 readable program code comprising:

5 computer program code means for identifying spanning calls from incoming  
6 calls, spanning calls including calls to and forwarded from other endpoints;

7 computer program code means for creating call context objects;

8 computer program code means for diverting said spanning calls to a dedicated  
9 line and forwarding said call context objects to another endpoint, forwarded said call  
10 context objects providing call linkage for corresponding said spanning calls;

11 computer program code means for matching said forwarded call context  
12 objects with corresponding said spanning calls; and

13 computer program code means for deflecting matched said spanning calls to  
14 called mobile stations.

1 32. A computer program product as in claim 31, the computer program code  
2 means for creating call context objects assign a globally unique call linkage value for  
3 incoming calls from local mobile stations.

1 33. A computer program product as in claim 32, further comprising computer  
2 program code means for setting aside a pool of dedicated lines and said dedicated line  
3 is one of said pooled dedicated lines.

1 34. A computer program product as in claim 33, wherein said pool of dedicated  
2 lines is a pool of dial in direct (DID) lines in a private branch exchange (PBX).

1 35. A computer program product as in claim 33, wherein forwarded said call  
2 context objects include a pool number identifying each corresponding spanning call  
3 with one of said pooled dedicated lines.

1 36. A computer program product as in claim 35, wherein the computer program  
2 code means for matching corresponds incoming said pooled dedicated lines with  
3 forwarded call context object values.

1 37. A computer program product as in claim 31, wherein said call context objects  
2 further include a called MS designation.

1 38. A computer program product as in claim 31, wherein the computer program  
2 code means for creating call context objects creates a receiving end call context object  
3 indicating a receiving end identification and, computer program code selection means

4 for deflecting spanning calls returns said receiving end call context object to an  
5 originating endpoint.

1 39. A computer program product as in claim 38, wherein the receiving end call  
2 context object includes a new call identification (ID) and said computer readable  
3 program code further comprises:  
4 computer program code selection means for reporting call events with said  
5 new call ID.

1 40. A computer program product as in claim 31, wherein computer program  
2 product is a software development kit (SDK) for providing computer supported  
3 telecommunications applications (CSTA) middleware.